Weather Briefing 1/21/05 7:30 AM EST

A significant winter storm is expected Saturday night and Sunday morning, with substantial snow expected in Southern New England. The consensus is that most of the action will be south of an east-west line that splits Massachusetts in half. Still, Portsmouth will not escape without some snow. Winds will pick up also, in the 20 knot range on Sunday. Again, most of the trouble will be further south with Cape Cod expected to be hit hard. The system moves rapidly into the Atlantic, and high pressure will build in on Monday, with a weak system coming in Monday night/Tuesday morning. This should not be a problem for the aircraft – unremarkable winds and limited precipitation as the system is dry.

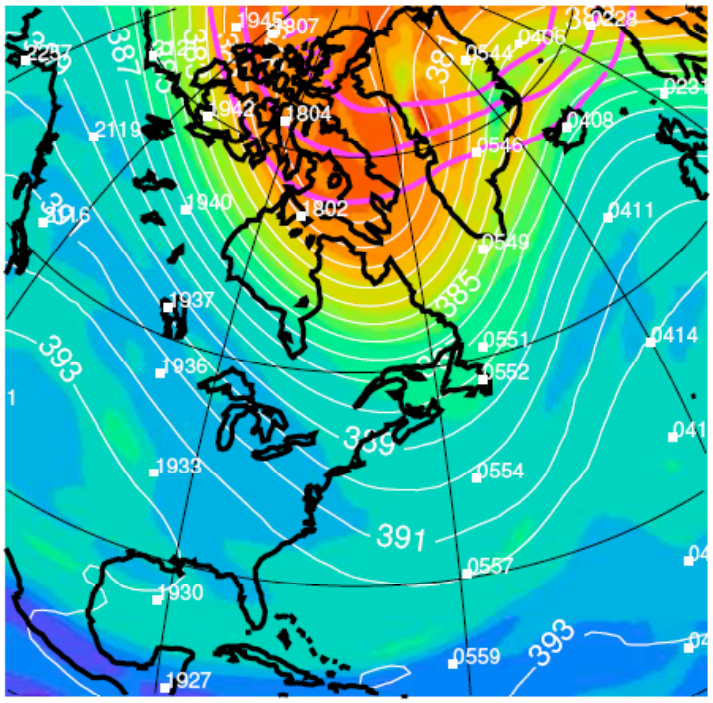
The next system comes in Wednesday night/Thursday with snow expected. It is a bit too early to judge the intensity of the winds and precipitation. Temperatures will warm through the week. Highs will be around 15 on Sunday going up to highs in the mid 30s by Thursday. The lowest low temps will be tonight (6 below), going up to 0 Sunday night, 15 Monday night, and 20 Wednesday night.

Flight level conditions on Monday.

The overall weather pattern on Monday is characterized by a strong ridge in the west-central part of the North American continent, with a deep trough off the east coast (about 70 W or so). Thus tropopauses will be quite low east-northeast of a line from Chesapeake Bay through Lake Huron. We expect significant high clouds northwest of Lake Superior, Depending on when takeoff occurs, we may also have high clouds near Edwards (though I am relying on an old forecast for this point). I have included the tropopause plot for 7 PM eastern (second plot). Colored lines are trop altitude at 29, 32, 35, 39, and 41 thousand feet.

The jet along the strong gradient in tropopause height will probably have winds in excess of 130 knots. In the stratosphere, a portion of the vortex is penetrating to about 60 N in eastern Canada, with PSC temps (196K – if you believe the forecast) found at 70 N over Ellesemere island. I have attached a plot of this as well (first plot).

00 UTC on 25 January, 2005 at 450.0 K



ASM, Grid: GG1%25X1

Seq: EF-FLK, Spec:

108 hr fcst

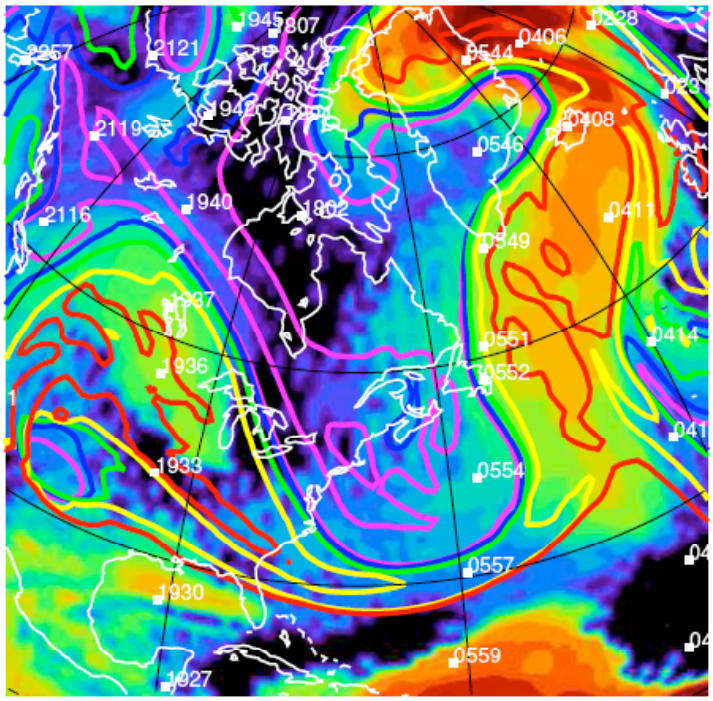
EPV (K m^2/kg s)

4.8e-05
4.2e-05
3.6e-05
3.0e-05
2.4e-05
1.8e-05
1.2e-05
6.0e-06
0.0

MNST (x 1.00E+03 J/kg^-1)

192, 196, 200 (K)

00 UTC on 25 January, 2005 at 239.0 mb



NMC, Grid: GG1X1

Seq: E01, Spec: SAVN170L42

96 hr fcst

Cloud Top Alt (kft)

57.0
53.0
49.0
45.0
41.0
37.0
33.0
29.0
25.0

EPV Trop (29kft) EPV Trop (33kft) EPV Trop (35kft) EPV Trop (38kft) EPV Trop (41kft)